Digital Multi Effects

DME-3000

SONY

In today's program production, highly sophisticated video effect creations have been generalized following the rapid innovations in digital technology. The result has been a tremendous demand for a compact, cost effective, yet powerful digital effects system covering a wide range of editing applications.

In response, Sony introduces the DME-3000, a compact digital multi effect system with an ideal combination of high affordability and superior performance.

It offers a variety of video effects from simple 2-D to complex 3-D non-linear effects with unsurpassed picture quality based on more than 10-bit processing, advanced picture interpolation and filtering techniques.

The DME-3000 has been designed to interface with and complement Sony switchers, editors and VTRs.

When combined with the Sony equipments, the DME-3000 adds outstanding creative power to your productions.

*The picture shows the BKDM-3010 Control Panel and the CPD-1430 Color Display Monitor.

Advanced Man-Machine Interface

The DME-3000 features advanced man-machine interface. The track ball together with the Z-Ring™ allows intuitive and efficient operation for picture manipulation, cursor operation and keyframe control. Comprehensive color CRT display shows two menu windows at the same time, greatly contributing to the ease of operation. Numeric data for various parameters can be set for precise picture manipulation.

System Setup & Lens Menu

3D Transform & Ripple Menu

Flexible System Alternation

The DME-3000 perfectly handles either composite or component video signals with just a change of input/output boards. Whether in the composite or component environment, both analog and digital signals can be simultaneously accommodated, offering a broad spectrum of system application.
In the digital component operation, the signal processing can be switched between 525/60 and 625/50 mode, while in the digital composite operation, only NTSC mode is available. The DME-3000 also operates on either 4:3 and 16:9 aspect ratio in the component application. All these system selections can be done by simple menu operation.

Superb Picture Quality

All the signals including key signals are processed in the 4:2:2 mode with more than 10-bit resolution, contributing to high quality picture manipulation.

Frame Based Picture Processing
The DME-3000 employs frame based processing, which uses full frame information in processing and interpolating the video signal. This results in smooth edges and high resolution picture manipulation. When the signal contains the movement, however, the DME-3000 automatically switches to field based processing to avoid the inter-flicker which would be seen in frame based processing. This adaptive field-frame interpolation technique offers optimum interpolation of any source.

Anti-aliasing Filter
To prevent aliasing noise derived from the image compression, a high quality anti-aliasing filter is incorporated. This filter adjusts the video bandwidth in proportion to the reduction in image size.

Stunning Visual Effects

The DME-3000 combines superb picture quality with a wide range of 2-D/3-D effects such as, location, compression, rotation, perspective, aspect control, skew and axis location. Furthermore, by installing the optional boards, a broad range of attractive effects are available in addition to the standard effects.

Standard Effects
3-D Location & Rotation
(Source/Target)
Axis Location
Perspective/Skew
Flip/Tumble
Color Background
Border (Inner/Outer Softness)
Crop
Drop Shadow
Multi Move
Defocus/Blur
Posterization/Solarization
Negative
Contrast
Sepia with variable color

Trail

Multi Move

Random Mosaic

Sepia

Defocus

Multi-channel Operation
Up to two channels of the DME-3000 can be controlled from the single control panel. When the BKDM-3050 combiner board is inserted in each processor, the intersect effect, which calculates intersection between two pictures in the 3-D space, is available. The softness and transparency of the intersected edge can also be adjusted. The 20-bit resolution depth data assures very high picture quality effect. This also provides Dim and Fade effects. In the component mode, a serial video can be input via the EXT connector, being utilized as a background video or as a border video of the picture.

Recursive Effects
With the optional BKDM-3060 board installed, the DME-3000 provides recursive effects such as, trail, motion-decay, multi-freeze, time strobe and keyframe strobe.

Ripple

Character Trail

Lens

The trail matte can be set independently from the border matte. Furthermore, multiple trails can be intersected in the two-channel combined operation.

Non-linear Effects
Wave
Flag
Ripple
Rings
Page Turn
Roll
Cylinder
Sphere
Character Trail
Mosaic Glass
Flying Bars
Lens
Mirror
Circle
Panorama
Split
Split Slide
Broken Glass

The BKDM-3030 board offers an attractive range of 3-D non-linear effects including Sony's unique effects. They can be enhanced by using the powerful modifiers.

Lighting Effects
Lighting and shading effects, which are available with the BKDM-3050 board, give three dimensional realism to the non-linear effects. For a 3-D linear picture, lighting type can be selected from three

Rings

Page Turn

patterns, flat light, bar light and spot light. For non-linear effects, the adequate lighting type is given to each effect. Various modifiers such as intensity, position and color controls allow precise and impressive image creation.

Wipe Pattern Generator & Graphic Display
With the BKDM-3040 Wipe & Graphic board installed, the DME-3000 allows a compressed image to be fitted into a closed wipe pattern, without the need to use one of the M/E banks of the DVS switchers. Wipe patterns can be used for cropping or masking a video modified picture, and also used for masking the lighting effects to make a spot light with variable shape. Powerful modifiers are equipped to create unlimited wipe patterns. Another wipe pattern generator is provided for allowing a color mix effect of the color background. Embossed color mix effect can also be created by using a desired wipe pattern.
This board also provides graphic screens to display a picture frame, grid pattern, coordinate axis and other visual aids for 3-D video manipulation.

Key Channel Input/ Output

In parallel with the video signals, an externally supplied key signal can be processed in the optional key processing channel. The key channel manipulates an input signal from the video switcher and sends it back to the switcher for further compositing.

Keyframe Operation

Complex animated effects composed of up to 800 keyframes can be stored in up to 99 registers. The intermediate values between the keyframes are automatically calculated and its trajectories interpolated to complete the sequence. Motion path between each keyframe can be modified precisely and quickly. Various types of motion paths such as, Linear, Spline, Smooth and Step are available.

Built-in Floppy Disk Drive

For the storage of the keyframe data and set up data, a 3.5-inch floppy disk drive is equipped in the control panel. This feature also allows to upgrade the software by floppy disks.

Editor Interface

The DME-3000 can be serially controlled just like a VTR from the Sony BVE-2000/9100 Editing Control Units. Keyframe effects can be manually controlled in PLAY, STOP, VARIABLE PLAY, JOG and SHUTTLE modes.

Switcher Interface

The DME-3000 has an intelligent interface with the Sony DVS-8000/C, DVS-6000/C and DVS-2000C switchers. When combined with these switchers, the following powerful features are available.

Keyframe-LINK™
Keyframe-LINK is provided in conjunction with the DVS-6000/C and DVS-8000/C. The DME keyframe effects can be linked with the switcher keyframe effects, allowing timeline displays for each keyframe effect on the EL panel of the switcher. Relative timing between these effects can be adjusted easily.

DME-LINK
When combined with the DVS-2000C switcher, a DME-LINK function is provided. User programmed keyframe effects of the DME-3000 are rapidly accessed and controlled from the switcher's fader lever or auto transition button just like performing wipe transitions.

System Integration

Sony's integrated system interface offers a wide range of highly sophisticated editing application. Post production system configured with BVE-2000/9100, DVS-2000C/6000/6000C and DME-3000 provides an ideal combination of affordability and superior performance.
The analog component/composite inputs and outputs in the DME-3000 also allow to configure an analog system together with the BVS-3000 series switchers and analog VTRs.

System Configuration

DME-3000
Digital Multi Effects Processor

BKDM-3010
Control Panel

BKDM-3020
Composite Digital I/O Board (525/60 only)

BKDM-3021
Component Digital I/O Board

BKDM-3022
Composite Digital/Analog I/O Board (525/60 only)

BKDM-3023
Component Digital/Analog I/O Board

BKDM-3030
Non-linear Effects Board

BKDM-3040
Wipe & Graphics Board

BKDM-3050
Combiner & Lighting Board

BKDM-3060
Key Channel & Recursive Effects Board

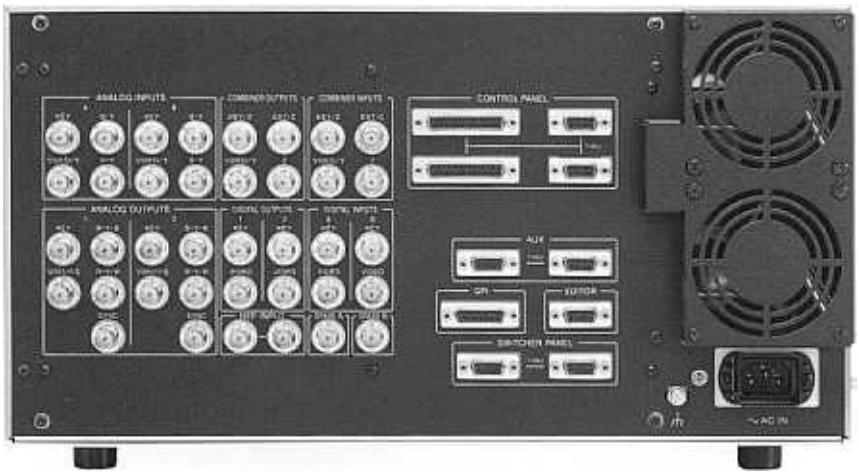
BZDM-3020*
Operation Software with Manual

CPD-1430
Color Display Monitor

*The BZDM-3020 is essential to initiate the DME-3000 system.

Control Panel

Rear View of the Processor



Specifications

Video Inputs/Outputs	Component	Composite
Digital Inputs		
	Serial (A/B)	Serial (A/B)
	Serial (A/B)	Serial (A/B)
	Serial	Serial
	Serial	Serial
	Serial	Serial
	Serial	Serial
	Serial × 2	Serial × 2
	Serial × 2	Serial × 2
	Serial	Serial
	Serial	Serial
	Serial	Serial
	Serial	Serial
	1.0 Vp-p (A/B)	1.0 Vp-p (A/B)
	1.0 Vp-p (A/B)	Composite (A/B)
	0.7 Vp-p (A/B)	—
	0.7 Vp-p (A/B)	—
	1.0 Vp-p (×2)	1.0 Vp-p
	1.0 Vp-p (×2)	Composite (×2)
	0.7 Vp-p (×2)	—
	0.7 Vp-p (×2)	—
	2.35 Vp-p (×2)	—

Control Inputs/Outputs	
Control Panel	25-pin × 2
	9-pin × 2
Switcher Panel	9-pin × 2
Editor	9-pin × 1
Aux	9-pin × 2
GPI	15-pin × 1

Video Characteristics	
Frequency Response	Component: 0 to 5.0 MHz, ±0.8 dB
	Composite: 0 to 5.0 MHz, ±0.5 dB
K Factor	Less than 1%
S/N ratio	55 dB
Sampling Clock	Component: 13.5 MHz
	Composite: 14.3 MHz
Quantization	10 bits
Delay	1 frame
Linearity (Composite)	DG: Less than 2%
	DP: Less than 2°

General	
Power Requirement	AC 90 to 264V
Power Consumption	400W
Dimensions	Control panel: 424(w) × 84(h) × 285(d) mm (16 3/4 × 3 3/8 × 11 1/4 inches)
	Processor: 424(w) × 221(h) × 450(d) mm (16 3/4 × 8 3/4 × 17 3/4 inches)
Weight	Control panel: Approx. 3.5 kg (7 lb 11 oz)
	Processor: Approx. 25 kg (55 lb 2 oz)

Supplied Accessories		
	Rack mount metal (1)	D-sub 25-pin cable (10m) (1)
	AC power code (1)	Installation manual(1)
	Plug adapter (1)	Maintenance manual (1)
	75 ohm terminal adapter (1)	

•Design and specifications are subject to change without notice.
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